CRF Errors Edited by the STIC Systems Branch

Serial Number: 09/165,546 D

CRF Edit Date: 9/22/03
Edited by: PG

____ Realigned nucleic acid/amino acid numbers/text in cases where the sequence text "wrapped" to the next line

____ Corrected the SEQ ID NO. Sequence numbers edited were:

_____

____ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:

_____

____ Deleted: ___ invalid beginning/end-of-file text ; ___ page numbers

____ Inserted mandatory headings/numeric identifiers, specifically:

_____

____ Moved responses to same line as heading/numeric identifier, specifically:

_____

____ Other:

_____

_____

_____

Revised 09/09/2003

1600

RAW SEQUENCE LISTING DATE: 09/22/2003
PATENT APPLICATION: US/09/165,546D TIME: 15:41:31

Input Set : A:\PTO.PG.txt
Output Set: N:\CRF4\09152003\I165546D.raw

SEQUENCE LISTING
1 (1) GENERAL INFORMATION:
C--> 3 (i) APPLICANT: Knuth, Alexader; Jager, Elke; Chen, Yao, Scanlan, Matt;
4 Gure, Ali, Old, Lloyd, Ritter, Gerd
6 (ii) TITLE OF INVENTION: ISOLATED PEPTIDES CORRESPONDING TO AMINO ACID
7 SEQUENCES OF NY-ESO-1, WHICH BIND TO MHC CLASS I AND MHC CLASS II MOLECULES, AND
8 USES THEREOF
10 (iii) NUMBER OF SEQUENCES: 15
12 (iv) CORRESPONDENCE ADDRESS:
13 (A) ADDRESSEE: FULBRIGHT & JAWORSKI LLP
14 (B) STREET: 666 Fifth Avenue
15 (C) CITY: New York City
16 (D) STATE: New York
17 (E) COUNTRY: USA
18 (F) ZIP: 10158
20 (v) COMPUTER READABLE FORM:
21 (A) MEDIUM TYPE: Diskette, 3.5 inch, 144 kb storage
22 (B) COMPUTER: IBM
23 (C) OPERATING SYSTEM: PC-DOS
24 (D) SOFTWARE: Word
26 (vi) CURRENT APPLICATION DATA:
C--> 27 (A) APPLICATION NUMBER: US/09/165,546D
C--> 28 (B) FILING DATE: 02-Oct-1998
29 (C) CLASSIFICATION: 530
C--> 39 (vii) PRIOR APPLICATION DATA:
32 (A) APPLICATION NUMBER: 09/062,422
33 (B) FILING DATE: April 17, 1998
36 (A) APPLICATION NUMBER: 08/937,263
37 (B) FILING DATE: September 15, 1997
40 (A) APPLICATION NUMBER: US 08/725,182
41 (B) FILING DATE: October 3, 1996
43 (viii) ATTORNEY/AGENT INFORMATION:
44 (A) NAME: Hanson, Norman D.
45 (B) REGISTRATION NUMBER: 30,946
46 (C) REFERENCE/DOCKET NUMBER: LUD 2166.4 CIP (09807811)
48 (ix) TELECOMMUNICATION INFORMATION:
49 (A) TELEPHONE: (212) 318-3000
50 (B) TELEFAX: (212) 318-3400
52 (2) INFORMATION FOR SEQ ID NO: 1:
53 (i) SEQUENCE CHARACTERISTICS:
54 (A) LENGTH: 752 base pairs
55 (B) TYPE: nucleic acid
56 (C) STRANDEDNESS: double

RAW SEQUENCE LISTING DATE: 09/22/2003
PATENT APPLICATION: **US/09/165,546D** TIME: 15:41:31

Input Set : **A:\PTO.PG.txt**
Output Set: **N:\CRF4\09152003\I165546D.raw**

(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

```
ATCCTCGTGG GCCCTGACCT TCTCTCTGAG AGCCGGGCAG AGGCTCCGGA GCC     53

ATG CAG GCC GAA GGC CGG GGC ACA GGG GGT TCG ACG GGC GAT GCT    98
Met Gln Ala Glu Gly Arg Gly Thr Gly Gly Ser Thr Gly Asp Ala
                5                   10                  15

GAT GGC CCA GGA GGC CCT GGC ATT CCT GAT GGC CCA GGG GGC AAT   143
Asp Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn
            20                  25                  30

GCT GGC GGC CCA GGA GAG GCG GGT GCC ACG GGC GGC AGA GGT CCC   188
Ala Gly Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Ala Pro
        35                  40                  45

CGG GGC GCA GGG GCA GCA AGG GCC TCG GGG CCG GGA GGA GGC GCC   233
Arg Gly Ala Gly Ala Ala Arg Ala Ser Gly Pro Gly Gly Gly Ala
    50                  55                  60

CCG CGG GGT CCG CAT GGC GGC GCG GCT TCA GGG CTG AAT GGA TGC   278
Pro Arg Gly Pro His Gly Gly Ala Ala Ser Gly Leu Asn Gly Cys
65                  70                  75

TGC AGA TGC GGG GCC AGG GGG CCG GAG AGC CGC CTG CTT GAG TTC   323
Cys Arg Cys Gly Ala Arg Gly Pro Glu Ser Arg Leu Leu Glu Phe
            80                  85                  90

TAC CTC GCC ATG CCT TTC GCG ACA CCC ATG GAA GCA GAG CTG GCC   368
Tyr Leu Ala Met Pro Phe Ala Thr Pro Met Glu Ala Glu Leu Ala
        95                  100                 105

CGC AGG AGC CTG GCC CAG GAT GCC CCA CCG CTT CCC GTG CCA GGG   413
Arg Arg Ser Leu Ala Gln Asp Ala Pro Pro Leu Pro Val Pro Gly
    110                 115                 120

GTG CTT CTG AAG GAG TTC ACT GTG TCC GGC AAC ATA CTG ACT ATC   458
Val Leu Leu Lys Glu Phe Thr Val Ser Gly Asn Ile Leu Thr Ile
125                 130                 135

CGA CTG ACT GCT GCA GAC CAC CGC CAA CTG CAG CTC TCC ATC AGC   503
Arg Leu Thr Ala Ala Asp His Arg Gln Leu Gln Leu Ser Ile Ser
            140                 145                 150

TCC TGT CTC CAG CAG CTT TCC CTG TTG ATG TGG ATC ACG CAG TGC   548
Ser Cys Leu Gln Gln Leu Ser Leu Leu Met Trp Ile Thr Gln Cys
        155                 160                 165

TTT CTG CCC GTG TTT TTG GCT CAG CCT CCC TCA GGG CAG AGG CGC   593
Phe Leu Pro Val Phe Leu Ala Gln Pro Pro Ser Gly Gln Arg Arg
    170                 175                 180

TAAGCCCAGC CTGGCGCCCC TTCCTAGGTC ATGCCTCCTC CCCTAGGGAA       643

TGGTCCCAGC ACGAGTGGCC AGTTCATTGT GGGGGCCTGA TTGTTTGTCG       693

CTGGAGGAGG ACGGCTTACA TGTTTGTTTC TGTAGAAAAT AAAACTGAGC       743

TACGAAAAA                                                   752
```

(2) INFORMATION FOR SEQ ID NO: 2:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 31 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

RAW SEQUENCE LISTING DATE: 09/22/2003
PATENT APPLICATION: **US/09/165,546D** TIME: 15:41:31

Input Set : **A:\PTO.PG.txt**
Output Set: **N:\CRF4\09152003\I165546D.raw**

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

CACACAGGAT CCATGGATGC TGCAGATGCG G 31

(2) INFORMATION FOR SEQ ID NO: 3:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 32 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

CACACAAAGC TTGGCTTAGC GCCTCTGCCC TG 32

(2) INFORMATION FOR SEQ ID NO: 4:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 11 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

Ser Leu Leu Met Trp Ile Thr Gln Cys Phe Leu
5 10

(2) INFORMATION FOR SEQ ID NO: 5:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 9 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:

Ser Leu Leu Met Trp Ile Thr Gln Cys
5

(2) INFORMATION FOR SEQ ID NO: 6:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 9 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:

Gln Leu Ser Leu Leu Met Trp Ile Thr
5

(2) INFORMATION FOR SEQ ID NO: 7:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 10 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:

Leu Leu Met Trp Ile Thr Gln Cys Phe Leu
5 10

(2) INFORMATION FOR SEQ ID NO: 8:

C--> **(i) SEQUENCE CHARACTERISTICS:**

(A) LENGTH: 18 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:

Ala Ala Asp His Arg Gln Leu Gln Leu Ser Ile Ser Ser Cys Leu Gln

RAW SEQUENCE LISTING DATE: 09/22/2003
PATENT APPLICATION: US/09/165,546D TIME: 15:41:31

Input Set : A:\PTO.PG.txt
Output Set: N:\CRF4\09152003\I165546D.raw

```
187                 5                   10                  15
188 Gln Leu
191 (2) INFORMATION FOR SEQ ID NO: 9:
192      (i) SEQUENCE CHARACTERISTICS:
193           (A) LENGTH: 18 amino acids
194           (B) TYPE: amino acid
195           (D) TOPOLOGY: linear
196     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:
198 Val Leu Leu Lys Glu Phe Thr Val Ser Gly Asn Ile Leu Thr Ile Arg
199                 5                   10                  15
200 Leu Thr
203 (2) INFORMATION FOR SEQ ID NO: 10:
204      (i) SEQUENCE CHARACTERISTICS:
205           (A) LENGTH: 18 amino acids
206           (B) TYPE: amino acid
207           (D) TOPOLOGY: linear
208     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:
210 Pro Leu Pro Val Pro Gly Val Leu Leu Lys Glu Phe Thr Val Ser Gly
211                 5                   10                  15
212 Asn Ile
215 (2) INFORMATION FOR SEQ ID NO: 11:
216      (i) SEQUENCE CHARACTERISTICS:
217           (A) LENGTH: 18 amino acids
218           (B) TYPE: amino acid
219           (D) TOPOLOGY: linear
220     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:
222 Gly Ala Ala Ser Gly Leu Asn Gly Cys Cys Arg Cys Gly Ala Arg Gly
223                 5                   10                  15
224 Pro Glu
227 (2) INFORMATION FOR SEQ ID NO: 12:
228      (i) SEQUENCE CHARACTERISTICS:
229           (A) LENGTH: 18 amino acids
230           (B) TYPE: amino acid
231           (D) TOPOLOGY: linear
232     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:
234 Ser Arg Leu Leu Glu Phe Tyr Leu Ala Met Pro Phe Ala Thr Pro Met
235                 5                   10                  15
236 Glu Ala
239 (2) INFORMATION FOR SEQ ID NO: 13:
240      (i) SEQUENCE CHARACTERISTICS:
241           (A) LENGTH: 18 amino acids
242           (B) TYPE: amino acid
243           (D) TOPOLOGY: linear
244     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:
246 Thr Val Ser Gly Asn Ile Leu Thr Ile Arg Leu Thr Ala Ala Asp His
247                 5                   10                  15
248 Arg Gln
251 (2) INFORMATION FOR SEQ ID NO: 14:
252      (i) SEQUENCE CHARACTERISTICS:
```

(A) LENGTH: 6 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:

Leu Leu Met Trp Ile Thr
5

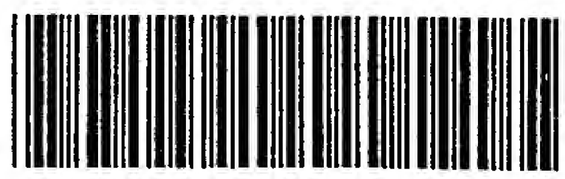
(2) INFORMATION FOR SEQ ID NO: 15:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 180 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 15

```
Met Gln Ala Glu Gly Arg Gly Thr Gly Gly Ser Thr Gly Asp Ala
 5                  10                  15
Asp Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn
            20                  25                  30
Ala Gly Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro
        35                  40                  45
Arg Gly Ala Gly Ala Ala Arg Ala Ser Gly Pro Gly Gly Gly Ala
    50                  55                  60
Pro Arg Gly Pro His Gly Gly Ala Ala Ser Gly Leu Asn Gly Cys
65                  70                  75
Cys Arg Cys Gly Ala Arg Gly Pro Glu Ser Arg Leu Leu Glu Phe
                80                  85                  90
Tyr Leu Ala Met Pro Phe Ala Thr Pro Met Glu Ala Glu Leu Ala
            95                  100                 105
Arg Arg Ser Leu Ala Gln Asp Ala Pro Pro Leu Pro Val Pro Gly
        110                 115                 120
Val Leu Leu Lys Glu Phe Thr Val Ser Gly Asn Ile Leu Thr Ile
    125                 130                 135
Arg Leu Thr Ala Ala Asp His Arg Gln Leu Gln Leu Ser Ile Ser
140                 145                 150
Ser Cys Leu Gln Gln Leu Ser Leu Leu Met Trp Ile Thr Gln Cys
155                 160                 165
Phe Leu Pro Val Phe Leu Ala Gln Pro Pro Ser Gly Gln Arg Arg
170                 175                 180
```

VERIFICATION SUMMARY DATE: 09/22/2003
PATENT APPLICATION: **US/09/165,546D** TIME: 15:41:32

Input Set : **A:\PTO.PG.txt**
Output Set: **N:\CRF4\09152003\I165546D.raw**

L:3 M:220 C: Keyword misspelled or invalid format, [(i) APPLICANT:]
L:27 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:28 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
L:31 M:220 C: Keyword misspelled or invalid format, [(vii) PRIOR APPLICATION DATA:]
L:180 M:220 C: Keyword misspelled or invalid format, [(i) SEQUENCE CHARACTERISTICS:]



1600

RAW SEQUENCE LISTING DATE: 09/22/2003
PATENT APPLICATION: **US/09/165,546D** TIME: 15:37:06

Input Set : **A:\PTO.PG.txt**
Output Set: **N:\CRF4\09222003\I165546D.raw**

SEQUENCE LISTING

1 (1) GENERAL INFORMATION:
C--> 3 **(i) APPLICANT: Knuth, Alexander; Jager, Elke; Chen, Yao, Scanlan, Matt;**
4 Gure, Ali, Old, Lloyd, Ritter, Gerd
6 (ii) TITLE OF INVENTION: ISOLATED PEPTIDES CORRESPONDING TO AMINO ACID
7 SEQUENCES OF NY-ESO-1, WHICH BIND TO MHC CLASS I AND MHC CLASS II MOLECULES, AND
8 USES THEREOF
10 (iii) NUMBER OF SEQUENCES: 15
12 (iv) CORRESPONDENCE ADDRESS:
13 (A) ADDRESSEE: FULBRIGHT & JAWORSKI LLP
14 (B) STREET: 666 Fifth Avenue
15 (C) CITY: New York City
16 (D) STATE: New York
17 (E) COUNTRY: USA
18 (F) ZIP: 10158
20 (v) COMPUTER READABLE FORM:
21 (A) MEDIUM TYPE: Diskette, 3.5 inch, 144 kb storage
22 (B) COMPUTER: IBM
23 (C) OPERATING SYSTEM: PC-DOS
24 (D) SOFTWARE: Word
26 (vi) CURRENT APPLICATION DATA:
C--> 27 **(A) APPLICATION NUMBER: US/09/165,546D**
C--> 28 **(B) FILING DATE: 02-Oct-1998**
29 (C) CLASSIFICATION: 530
C--> 39 **(vii) PRIOR APPLICATION DATA:**
32 (A) APPLICATION NUMBER: 09/062,422
33 (B) FILING DATE: April 17, 1998
36 (A) APPLICATION NUMBER: 08/937,263
37 (B) FILING DATE: September 15, 1997
40 (A) APPLICATION NUMBER: US 08/725,182
41 (B) FILING DATE: October 3, 1996
43 (viii) ATTORNEY/AGENT INFORMATION:
44 (A) NAME: Hanson, Norman D.
45 (B) REGISTRATION NUMBER: 30,946
46 (C) REFERENCE/DOCKET NUMBER: LUD 2166.4 CIP (09807811)
48 (ix) TELECOMMUNICATION INFORMATION:
49 (A) TELEPHONE: (212) 318-3000
50 (B) TELEFAX: (212) 318-3400
52 (2) INFORMATION FOR SEQ ID NO: 1:
53 (i) SEQUENCE CHARACTERISTICS:
54 (A) LENGTH: 752 base pairs
55 (B) TYPE: nucleic acid
56 (C) STRANDEDNESS: double

Does Not Comply
Corrected Diskette Needed

RAW SEQUENCE LISTING DATE: 09/22/2003
PATENT APPLICATION: **US/09/165,546D** TIME: 15:37:06

Input Set : **A:\PTO.PG.txt**
Output Set: **N:\CRF4\09222003\I165546D.raw**

```
     (D) TOPOLOGY: linear
  (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:
ATCCTCGTGG GCCCTGACCT TCTCTCTGAG AGCCGGGCAG AGGCTCCGGA GCC     53
ATG CAG GCC GAA GGC CGG GGC ACA GGG GGT TCG ACG GGC GAT GCT    98
Met Gln Ala Glu Gly Arg Gly Thr Gly Gly Ser Thr Gly Asp Ala
                5                  10                  15
GAT GGC CCA GGA GGC CCT GGC ATT CCT GAT GGC CCA GGG GGC AAT   143
Asp Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn
            20                  25                  30
GCT GGC GGC CCA GGA GAG GCG GGT GCC ACG GGC GGC AGA GGT CCC   188
Ala Gly Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro
        35                  40                  45
CGG GGC GCA GGG GCA GCA AGG GCC TCG GGG CCG GGA GGA GGC GCC   233
Arg Gly Ala Gly Ala Ala Arg Ala Ser Gly Pro Gly Gly Gly Ala
    50                  55                  60
CCG CGG GGT CCG CAT GGC GGC GCG GCT TCA GGG CTG AAT GGA TGC   278
Pro Arg Gly Pro His Gly Gly Ala Ala Ser Gly Leu Asn Gly Cys
65                  70                  75
TGC AGA TGC GGG GCC AGG GGG CCG GAG AGC CGC CTG CTT GAG TTC   323
Cys Arg Cys Gly Ala Arg Gly Pro Glu Ser Arg Leu Leu Glu Phe
                80                  85                  90
TAC CTC GCC ATG CCT TTC GCG ACA CCC ATG GAA GCA GAG CTG GCC   368
Tyr Leu Ala Met Pro Phe Ala Thr Pro Met Glu Ala Glu Leu Ala
            95                  100                 105
CGC AGG AGC CTG GCC CAG GAT GCC CCA CCG CTT CCC GTG CCA GGG   413
Arg Arg Ser Leu Ala Gln Asp Ala Pro Pro Leu Pro Val Pro Gly
        110                 115                 120
GTG CTT CTG AAG GAG TTC ACT GTG TCC GGC AAC ATA CTG ACT ATC   458
Val Leu Leu Lys Glu Phe Thr Val Ser Gly Asn Ile Leu Thr Ile
    125                 130                 135
CGA CTG ACT GCT GCA GAC CAC CGC CAA CTG CAG CTC TCC ATC AGC   503
Arg Leu Thr Ala Ala Asp His Arg Gln Leu Gln Leu Ser Ile Ser
140                 145                 150
TCC TGT CTC CAG CAG CTT TCC CTG TTG ATG TGG ATC ACG CAG TGC   548
Ser Cys Leu Gln Gln Leu Ser Leu Leu Met Trp Ile Thr Gln Cys
                155                 160                 165
TTT CTG CCC GTG TTT TTG GCT CAG CCT CCC TCA GGG CAG AGG CGC   593
Phe Leu Pro Val Phe Leu Ala Gln Pro Pro Ser Gly Gln Arg Arg
            170                 175                 180
TAAGCCCAGC CTGGCGCCCC TTCCTAGGTC ATGCCTCCTC CCCTAGGGAA       643
TGGTCCCAGC ACGAGTGGCC AGTTCATTGT GGGGGCCTGA TTGTTTGTCG       693
CTGGAGGAGG ACGGCTTACA TGTTTGTTTC TGTAGAAAAT AAAACTGAGC       743
TACGAAAAA                                                   752
(2) INFORMATION FOR SEQ ID NO: 2:
     (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 31 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: single
          (D) TOPOLOGY: linear
```

RAW SEQUENCE LISTING DATE: 09/22/2003
PATENT APPLICATION: **US/09/165,546D** TIME: 11:05:12

Input Set : **A:\pto.yf.txt**
Output Set: **N:\CRF4\09222003\I165546D.raw**

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 180 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 15

Met Gln Ala Glu Gly Arg Gly Thr Gly Gly Ser Thr Gly Asp Ala
5 10 15
Asp Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn
20 25 30
Ala Gly Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro
35 40 45
Arg Gly Ala Gly Ala Ala Arg Ala Ser Gly Pro Gly Gly Gly Ala
50 55 60
Pro Arg Gly Pro His Gly Gly Ala Ala Ser Gly Leu Asn Gly Cys
65 70 75
Cys Arg Cys Gly Ala Arg Gly Pro Glu Ser Arg Leu Leu Glu Phe
80 85 90
Tyr Leu Ala Met Pro Phe Ala Thr Pro Met Glu Ala Glu Leu Ala
95 100 105
Arg Arg Ser Leu Ala Gln Asp Ala Pro Pro Leu Pro Val Pro Gly
110 115 120
Val Leu Leu Lys Glu Phe Thr Val Ser Gly Asn Ile Leu Thr Ile
125 130 135
Arg Leu Thr Ala Ala Asp His Arg Gln Leu Gln Leu Ser Ile Ser
140 145 150
Ser Cys Leu Gln Gln Leu Ser Leu Leu Met Trp Ile Thr Gln Cys
155 160 165
Phe Leu Pro Val Phe Leu Ala Gln Pro Pro Ser Gly Gln Arg Arg
170 175 180

E--> 293 -6-
294 LUD5466.4-SEQ.doc 1 — delete

```
121     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
123 CACACAGGAT CCATGGATGC TGCAGATGCG G                                  31
126 (2) INFORMATION FOR SEQ ID NO: 3:
127      (i) SEQUENCE CHARACTERISTICS:
128           (A) LENGTH: 32 base pairs
129           (B) TYPE: nucleic acid
130           (C) STRANDEDNESS: single
131           (D) TOPOLOGY: linear
132     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:
134 CACACAAAGC TTGGCTTAGC GCCTCTGCCC TG                                  32
137 (2) INFORMATION FOR SEQ ID NO: 4:
138      (i) SEQUENCE CHARACTERISTICS:
139           (A) LENGTH: 11 amino acids
140           (B) TYPE: amino acid
141           (D) TOPOLOGY: linear
142     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:
144 Ser Leu Leu Met Trp Ile Thr Gln Cys Phe Leu
145                  5                  10
148 (2) INFORMATION FOR SEQ ID NO: 5:
149      (i) SEQUENCE CHARACTERISTICS:
150           (A) LENGTH: 9 amino acids
151           (B) TYPE: amino acid
152           (D) TOPOLOGY: linear
153     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:
155 Ser Leu Leu Met Trp Ile Thr Gln Cys
156                  5
159 (2) INFORMATION FOR SEQ ID NO: 6:
160      (i) SEQUENCE CHARACTERISTICS:
161           (A) LENGTH: 9 amino acids
162           (B) TYPE: amino acid
163           (D) TOPOLOGY: linear
164     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:
166 Gln Leu Ser Leu Leu Met Trp Ile Thr
167                  5
168 (2) INFORMATION FOR SEQ ID NO: 7:
169      (i) SEQUENCE CHARACTERISTICS:
170           (A) LENGTH: 10 amino acids
171           (B) TYPE: amino acid
172           (D) TOPOLOGY: linear
173     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:
175 Leu Leu Met Trp Ile Thr Gln Cys Phe Leu
176                  5                  10
179 (2) INFORMATION FOR SEQ ID NO: 8:
C--> 180      (i) SEQUENCE CHARACTERISTICS:
181           (A) LENGTH: 18 amino acids
182           (B) TYPE: amino acid
183           (D) TOPOLOGY: linear
184     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:
186 Ala Ala Asp His Arg Gln Leu Gln Leu Ser Ile Ser Ser Cys Leu Gln
```

RAW SEQUENCE LISTING DATE: 09/22/2003
PATENT APPLICATION: **US/09/165,546D** TIME: 15:37:06

Input Set : **A:\PTO.PG.txt**
Output Set: **N:\CRF4\09222003\I165546D.raw**

```
187                 5                   10                  15
188 Gln Leu
191 (2) INFORMATION FOR SEQ ID NO: 9:
192      (i) SEQUENCE CHARACTERISTICS:
193           (A) LENGTH: 18 amino acids
194           (B) TYPE: amino acid
195           (D) TOPOLOGY: linear
196     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:
198 Val Leu Leu Lys Glu Phe Thr Val Ser Gly Asn Ile Leu Thr Ile Arg
199                 5                   10                  15
200 Leu Thr
203 (2) INFORMATION FOR SEQ ID NO: 10:
204      (i) SEQUENCE CHARACTERISTICS:
205           (A) LENGTH: 18 amino acids
206           (B) TYPE: amino acid
207           (D) TOPOLOGY: linear
208     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:
210 Pro Leu Pro Val Pro Gly Val Leu Leu Lys Glu Phe Thr Val Ser Gly
211                 5                   10                  15
212 Asn Ile
215 (2) INFORMATION FOR SEQ ID NO: 11:
216      (i) SEQUENCE CHARACTERISTICS:
217           (A) LENGTH: 18 amino acids
218           (B) TYPE: amino acid
219           (D) TOPOLOGY: linear
220     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:
222 Gly Ala Ala Ser Gly Leu Asn Gly Cys Cys Arg Cys Gly Ala Arg Gly
223                 5                   10                  15
224 Pro Glu
227 (2) INFORMATION FOR SEQ ID NO: 12:
228      (i) SEQUENCE CHARACTERISTICS:
229           (A) LENGTH: 18 amino acids
230           (B) TYPE: amino acid
231           (D) TOPOLOGY: linear
232     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:
234 Ser Arg Leu Leu Glu Phe Tyr Leu Ala Met Pro Phe Ala Thr Pro Met
235                 5                   10                  15
236 Glu Ala
239 (2) INFORMATION FOR SEQ ID NO: 13:
240      (i) SEQUENCE CHARACTERISTICS:
241           (A) LENGTH: 18 amino acids
242           (B) TYPE: amino acid
243           (D) TOPOLOGY: linear
244     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:
246 Thr Val Ser Gly Asn Ile Leu Thr Ile Arg Leu Thr Ala Ala Asp His
247                 5                   10                  15
248 Arg Gln
251 (2) INFORMATION FOR SEQ ID NO: 14:
252      (i) SEQUENCE CHARACTERISTICS:
```

RAW SEQUENCE LISTING DATE: 09/22/2003
PATENT APPLICATION: US/09/165,546D TIME: 15:37:06

Input Set : A:\PTO.PG.txt
Output Set: N:\CRF4\09222003\I165546D.raw

(A) LENGTH: 6 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:

Leu Leu Met Trp Ile Thr
5

(2) INFORMATION FOR SEQ ID NO: 15:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 180 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 15

Met Gln Ala Glu Gly Arg Gly Thr Gly Gly Ser Thr Gly Asp Ala
5 10 15
Asp Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn
20 25 30
Ala Gly Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro
35 40 45
Arg Gly Ala Gly Ala Ala Arg Ala Ser Gly Pro Gly Gly Gly Ala
50 55 60
Pro Arg Gly Pro His Gly Gly Ala Ala Ser Gly Leu Asn Gly Cys
65 70 75
Cys Arg Cys Gly Ala Arg Gly Pro Glu Ser Arg Leu Leu Glu Phe
80 85 90
Tyr Leu Ala Met Pro Phe Ala Thr Pro Met Glu Ala Glu Leu Ala
95 100 105
Arg Arg Ser Leu Ala Gln Asp Ala Pro Pro Leu Pro Val Pro Gly
110 115 120
Val Leu Leu Lys Glu Phe Thr Val Ser Gly Asn Ile Leu Thr Ile
125 130 135
Arg Leu Thr Ala Ala Asp His Arg Gln Leu Gln Leu Ser Ile Ser
140 145 150
Ser Cys Leu Gln Gln Leu Ser Leu Leu Met Trp Ile Thr Gln Cys
155 160 165
Phe Leu Pro Val Phe Leu Ala Gln Pro Pro Ser Gly Gln Arg Arg
170 175 180

VERIFICATION SUMMARY DATE: 09/22/2003
PATENT APPLICATION: **US/09/165,546D** TIME: 15:37:07

Input Set : **A:\PTO.PG.txt**
Output Set: **N:\CRF4\09222003\I165546D.raw**

L:3 M:220 C: Keyword misspelled or invalid format, [(i) APPLICANT:]
L:27 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:28 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
L:31 M:220 C: Keyword misspelled or invalid format, [(vii) PRIOR APPLICATION DATA:]
L:71 M:334 W: (2) Invalid Amino Acid in Coding Region, NUMBER OF INVALID KEYS:1
L:84 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:180 M:220 C: Keyword misspelled or invalid format, [(i) SEQUENCE CHARACTERISTICS:]